

● PRINTER RUSH ●

(PTO ASSISTANCE)

Application : <u>10 611 457</u>	Examiner : <u>B Lee</u>	GAU : <u>2632</u>
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[RUSH] MESSAGE: _____

on page 1, line 2 of the SPEC 09.24.05 —

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Docket No. 14247US01

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ACOUSTIC WAVE ICE AND WATER DETECTOR

CROSS-REFERENCE TO RELATED APPLICATIONS

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This application is related to U.S. patent application entitled "Torsional Acoustic Wave Sensor," Serial No. 106/1583, filed concurrently herewith and U.S. patent application entitled "Acoustic Wave Touch Detection Circuit and Method," Serial No. 10/454,003, filed June 4, 2003.

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STATEMENT REGARDING FEDERALLY SPONSORED
RESEARCH OR DEVELOPMENT

N/A

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FIELD OF INVENTION

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The present invention relates to an acoustic wave sensor utilizing one or more acoustic waves trapped in an acoustic wave cavity for detecting the presence of one substance or more than one substance on the surface of the cavity. In one embodiment, the acoustic wave sensor forms an ice detector and in another embodiment, the sensor forms an ice and water detector although the acoustic wave sensor of the present invention can be used to sense the presence of other substances as well.

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BACKGROUND OF THE INVENTION

Ice detectors are known that utilize acoustic waves propagating over a distance through a structure, such as the outer material of an airplane wing, wherein the acoustic waves propagate between a transmitter transducer and a receiver transducer. Propagating waves are